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     (FILE 'HOME' ENTERED AT 09:29:10 ON 06 FEB 2003)

     FILE 'CA' ENTERED AT 09:29:19 ON 06 FEB 2003
L1         13438 S HYDROXYAPATITE
L2          9750 S HYDROXYLAPATITE
L3         21300 S L1 OR L2
L4        190451 S FOAM OR FOAMING OR (HYDROGEN PEROXIDE)
L5           198 S L4 AND L3
L6            13 S SCINTER?
L7        187599 S SINTER?
L8            35 S L7 AND L5
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L8 ANSWER 29 OF 35 CA COPYRIGHT 2003 ACS
AN 115:239819 CA
TI Ceramic bone-prosthetics for surgical and dental use
IN Hakamazuka, Koji; Irie, Hiroyuki
PA Olympus Optical Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 03178652	A2	19910802	JP 1989-318230	19891207
	JP 2951342	B2	19990920		
PRAI	JP 1989-318230		19891207		

AB The title bone-prosthetics consist of a porous layer having 40-80% porosity and a dense layer having <50% porosity. The porous layer is made of calcium phosphate compd., **hydroxyapatite**-contg. tricalcium phosphate; and/or Ca- and P-contg. glass prepd. by the wet-type pulverization-mixing method and having a Ca/P ratio of 1.40-1.70. The dense layer is made of e.g. calcium phosphate compd. prepd. by the wet-type pulverization-mixing method and having a Ca/P ratio of 1.4-1.7. Thus, .beta.-tricalcium phosphate (.beta.-TCP) powder and a glass powder contg. Na2O, CaO, P2O5 and Al2O3 (10:40:45:5 mol%) at a mol. ratio of 40:60 were mixed, and 30 g of the mixt. was blended with water, **foaming** agent, and **foam** stabilizer (16:4:17 mL) to give compn. A for the porous layer. Sep., .beta.-TCP powder (30 g) was mixed with water 10, **foaming** agent 2 and **foam** stabilizer 17 mL to give compn. B for the dense layer. Compn. A and compn. B were sep. poured into a container to form a 2-layer structure, which was dried at 30-40.degree. for 1 day and **sintered** at 1100.degree. for 15 h to give a bone implant. The prepn. was biocompatible.

L8 ANSWER 22 OF 35 CA COPYRIGHT 2003 ACS
AN 132:14830 CA
TI Manufacture of macroporous calcium **hydroxyapatite** bioceramics
AU Engin, N. Ozgur; Tas, A. Cuneyt
CS Department of Metallurgical and Materials Engineering, Middle East Technical University, Ankara, 06531, Turk.
SO Journal of the European Ceramic Society (1999), 19(13-14), 2569-2572
CODEN: JECSER; ISSN: 0955-2219
PB Elsevier Science Ltd.
DT Journal
LA English
AB Trabecular bones of almost all vertebrate organisms basically consist of macroporous (55-70% interconnected porosity) bone mineral, i.e. calcium **hydroxyapatite** (HA: Ca10(PO4)6(OH)2). The macroporosity obsd. in the trabecular bones then allows the ingrowth of the soft tissues and org. cells into the bone matrix. Sub-micron, chem. uniform, and high phase-purity HA powders produced in our lab. were mixed, under vigorous ultrasonification, with Me cellulose of appropriate amts. in the form of an aq. slurry of proper viscosity and thickness. The ceramic cakes produced in this way were then slowly dried in an oven in the temp. range of 50-90.degree.C. Dried cakes of porous HA were phys. cut into various prismatic shapes. These parts were then slowly heated in an air atm. to the optimum **sintering** temp. of 1250.degree.C. The HA bioceramic parts obtained by this novel "**foaming** technique" were found to have tractable and controllable interconnected porosity in the range of 60-90%, with typical pore sizes in the range 100-250 .mu.m. Sample characterization was mainly achieved by SEM studies and three-point bending tests.
RE.CNT 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 17 OF 35 CA COPYRIGHT 2003 ACS
AN 132:352685 CA
TI Investigation into manufacture of porous **hydroxyapatite** via three different routes and effects of porosifiers
AU Yang, H. Y.; Wang, M.
CS School of Mechanical and Production Engineering, Nanyang Technological University, Singapore, 639798, Singapore
SO Bioceramics, Proceedings of the International Symposium on Ceramics in Medicine (1999), 12, 349-352
CODEN: BPCMFX
PB World Scientific Publishing Co. Pte. Ltd.
DT Journal
LA English
AB Three routes, namely, uniaxial pressing, slip casting and H2O2 **foaming**, were used to fabricate porous **hydroxyapatite** (HA). Processing parameters in each route were studied, pore characteristics in **sintered** bodies assessed, and mech. properties of porous HA evaluated. SEM, gas pycnometry and mercury intrusion porosimetry were used to assess pore characteristics in terms of porosity, pore size and pore shape. Mech. properties of porous HA were evaluated using a biaxial testing fixture. The 23 factorial design method was used to det. the influence of pore characteristics on mech. properties. Pore characteristics were dependent on the manufg. route, processing parameters, porosifier and the amt. of porosifier. In the uniaxial pressing and slip casting routes, porosity, pore size and pore shape could be controlled using different porosifiers. Porosifiers were able to pass their geometrical characteristics to the pores they formed. Although H2O2 **foaming** was the simplest route and large pores could be formed through this route, pore characteristics were not easily controllable. Porosity, pore size and pore shape all had effects on mech. properties of **sintered** products. The interaction of pore size and pore shape affected mech. properties in that it caused mech. properties to vary differently according to pore shape (or pore size) when pore size (or pore shape) was at different levels.
RE.CNT 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 16 OF 35 CA COPYRIGHT 2003 ACS
AN 132:352717 CA
TI Porous **hydroxyapatite** prepared by gel casting of **foams** for biomedical applications
AU Sepulveda, P.; Pandolfelli, V. C.; Rogero, S. O.; Higa, O. Z.; Bressiani, J. C.
CS Departamento de Engenharia de Materiais Universidade Federal de S. Carlos, S. Carlos, 13565-905, Brazil
SO Ceramica (Sao Paulo) (1999), 45(296), 198-202
CODEN: CMCAAG; ISSN: 0366-6913
PB Associacao Brasileira de Ceramica
DT Journal
LA English
AB A novel technique has been applied to manuf. porous **hydroxyapatite** for implant applications. The process involved generation of **foam** from an aq. suspension of the powder followed by in situ polymn. of org. monomers, which had been previously added to the compns. This method produces strong gelled and complex-shaped bodies with up to 90% porosity that can withstand machining in the green state. The org. additives are eliminated at temps. above 300.degree.C and **sintering** is carried out for consolidation of the ceramic matrix. An optimized mech. strength results from a highly densified matrix combined with spherical interconnected cells of diam. ranging from 20 to 1000 .mu.m and channels of 10-100 .mu.m, depending on the specimen d. Cytotoxicity test was conducted with **sintered** HA exts. in contact with mammalian cells, based on a quant. method of colonies formation suppression. The in vitro test revealed that the original purity of the biomedical-grade **hydroxyapatite** powder was neither affected through processing nor by the employed reagents.
RE.CNT 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

8 ANSWER 5 OF 35 CA COPYRIGHT 2003 ACS
AN 136:315062 CA
TI Porous ceramic body for in vivo and in vitro use
IN Imura, Kohichi; Umezawa, Takashi; Ichikawa, Akihiro; Chaki, Katsuhiro
PA Toshiba Ceramics Co., Ltd., Japan
SO Eur. Pat. Appl., 26 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1197233	A1	20020417	EP 2001-123383	20011011
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
PRAI	JP 2000-312934	A	20001013		
	JP 2001-33147	A	20010209		
	JP 2001-151934	A	20010522		

AB A porous ceramics body for in vivo or in vitro use in which a no. of pores are closely distributed in 3-dimensional directions, adjoining pores being partitioned by wall portions with resp. communication ports to bring the adjoining pores into communication with each other such that a series of connected spherical pores are formed within. The porous ceramic body is made of a **sintered** calcium phosphate body, characterized in that, within the **sintered** calcium phosphate body, pores each having a diam. of .gtoreq.5 .mu. (.mu.m) account for .gtoreq.80% of all the pores in terms of vol., whereas pores having a diam. of <5 .mu. account for <20% of all the pores in terms of vol. as subjected to a mercury porosimeter measurement. A slurry was prepd. by adding 10.5 parts polyethyleneimine to 100 parts **hydroxylapatite** (mean diam of 0.3 .mu.m) and 70 parts water. Next, 0.3 parts a **foaming** agent (PEG lauryl ether) was added to the above slurry. Finally, 3.5 parts crosslinker was added to fix the **foam** structure before the foamed slurry was poured into a mold to be dried, and then **sintered** at 1200.degree. to give a specimen of **sintered** **hydroxylapatite** ceramic body.

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT